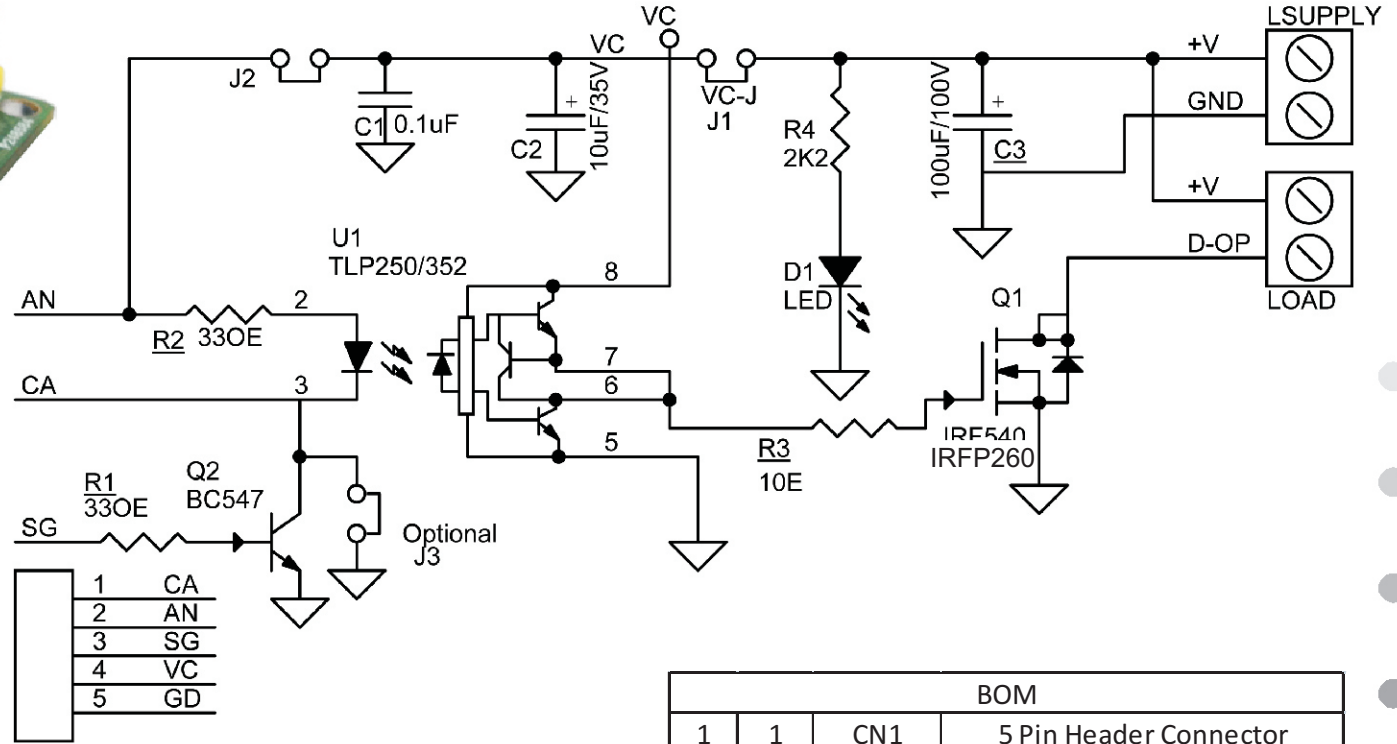
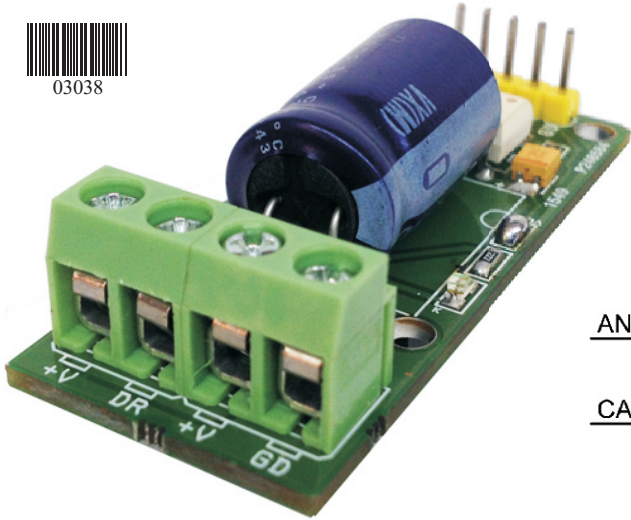
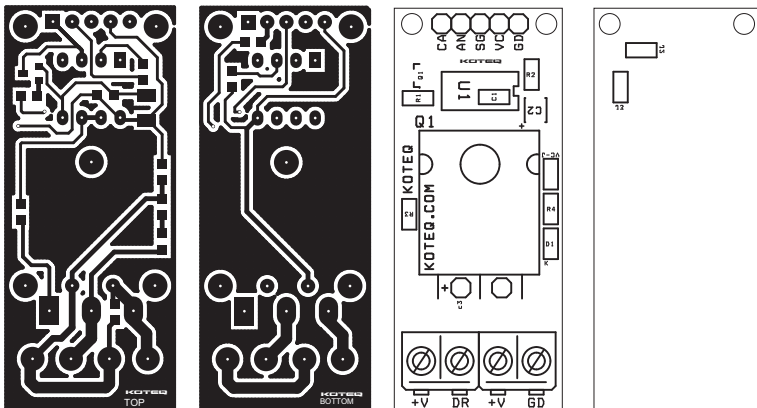


DC Solid State Relay 10Amps 60V (Optically Isolated)



Connections

1. Cathode 2. Anode 3. Low Current Signal in 4. VCC-12V-18V 5. GD-Ground
2. +V & GD Load Supply 12V to 60V DC
3. +V & DR Load (DR-Drain: -Load & +V: + Load)



BOM			
1	1	CN1	5 Pin Header Connector
2	1	CN2	2 PIN Screw Terminal
3	1	CN3	2 Pin Screw Terminal
4	1	C1	0.1uF
5	1	C2	10uF/35V
6	1	C3	100uF/100V
7	1	D1	RED LED SMD 0805
8	1	J1	VC-J Solder
9	1	J2	Solder Jumper
10	1	J3	Solder Jumper
11	1	Q1	IRFP260
12	1	Q2	BC847 SMD
13	2	R1,R2	330E SMD 0805
14	1	R3	10E SMD 0805
15	1	R4	2K2 SMD 0805
16	1	U1	TLP250 OR TLP352

DC Solid State Relay 10Amps 60V (Optically Isolated)

This project has been designed around TLP250/352 which is Opto-Coupler IGBT/MOSFET Gate Driver from Toshiba and Mosfet IRFP260 from IR, This relay consists of optically isolated gate driver and low impedance Mosfet. The combination of low resistance and high load current handling capabilities make this Relay suitable for a variety of switching applications. These devices are ideally suited for controlling high voltage and current DC loads with solid state reliability while providing 3750V isolation from input to output.

A solid-state relay (SSR) is an electronic switching device that switches on or off when a small external voltage is applied across its control terminals. SSRs consist of a Opto-isolator which responds to an appropriate input (control signal), a solid-state electronic switching device which switches power to the load circuitry, and a coupling mechanism to enable the control signal to activate this switch without mechanical parts. This relay designed to switch DC Load up to 10Amps. It serves the same function as an electromechanical relay, but has no moving parts. Solid-state relays have fast switching speeds compared with electromechanical relays, and have no physical contacts to wear out. Input trigger voltage 3V to 9V DC (1.5V to 12 V with Transistor) and output load 10Amps and supply 12V to 60V DC (100V DC also Possible). Gate Driver required supply 12V to 18V DC. Heat sink required for peak load.

Note 1: Q2, R1, J2 Are Optional for Low Current Trigger Signal Input

Note2: J1 (VC-J) Close In Case of Load Supply and Logic Gate Supply are same 12V to 18V DC for single supply input operation

Note 3: Done use R4, D1 LED If Load Supply is higher than 24V DC

Note4: J3 for Cathode ground in case of single pulse input

Features

Supply 60V DC (100V DC Possible) For Load

Supply 12V – 18V DC for Opto-Coupler Gate Driver

J1 Jumper for Single Supply operations (If the Load Supply is between 12V DC to 18V DC)

Load Current Up to 10Amps (Required large size Heat sink for High current Load)

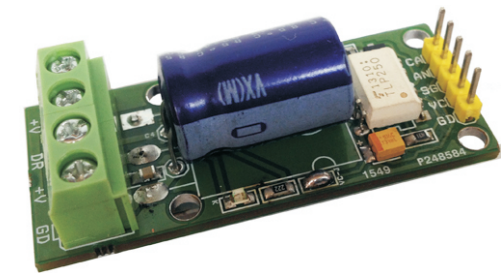
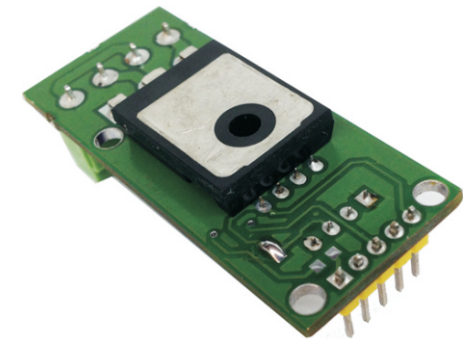
Two Input Options: 1. Anode Cathode Input 2. Signal input through Transistor Base input

Input Trigger 3V to 9V DC-Anode and Cathode (Alter Resistor Value for 24V DC Trigger Input)

Signal Input 1.5V to 12V DC at Transistor Base (Alter Base Resister Value for Higher trigger input)

Isolation Voltage : 3750V (Gate Driver)

Operation Input Frequency up to 50Khz (Refer TLP352 Data Sheet for More info)



Applications

- Motor Controls
- Robotics
- Medical Equipment
- Railroad/Traffic Controls
- Consumer Appliances
- Industrial control
- Solenoid Controls
- TEC Drivers
- High Current LED drivers
- Low Voltage Halogen Lamp Dimmers
- LED Light Dimmers
- Tesla Coil Drivers
- Induction Cook top
- Home Appliances